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ABSTRACT

Problems associated with the use of television in secondary schools which are examined in the context of current research include equipment, scheduling, availability of television programs, and teacher resistance. To overcome these problems, many researchers believe that more attention should be given to improving teacher training, while others call for more systematic evaluation of television utilization before problem-solving is attempted. However, the future of television use in secondary education is not as bleak as the studies reported here indicate: recent technological advances and a relaxation of off-air taping regulations granted by some software distributors may ease the scheduling and equipment difficulties. Probably the most significant breakthrough is the development and expansion of the videocassette and videodisc consumer markets. (CMV)

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The Agency for Instructional Television is a nonprofit American-Canadian organization established in 1973 to strengthen education through television and other technologies. AIT develops joint program projects involving state and provincial agencies, and acquires and distributes a wide variety of television and related printed materials for use as major learning resources. It makes many of the television materials available in audiovisual formats. AIT's predecessor organization, National Instructional Television, was founded in 1962. The AIT main offices are in Bloomington, Indiana; there are regional offices in the Washington, D.C., Atlanta, and San Francisco areas.

This is one of several research reports prepared as part of the Secondary School Television Project. This project is an activity of AIT supported with funds from Exxon Corporation and Union Carbide Corporation. It is designed to review the current uses of secondary school television and to explore improving the use of television in selected secondary curriculum areas.

For further information about the Secondary School Television Project, contact the Agency for Instructional Television, Box A, Bloomington, Indiana 47401.

Monica Dignam is the author of this report.

Research Report #48

Research on the
Use of Television
in Secondary Schools

June 1977

RESEARCH ON THE USE OF TELEVISION IN SECONDARY SCHOOLS

> There can no longer be any real doubt that children and adults learn a great amount from instructional television ...the effectiveness of television has now been demonstrated in well over 100 experiments...with a great variety of subject matter and method...The question is no longer whether students learn from it, but rather 1) does the situation call for it, and 2) how, in a given situation, can it be used effectively. (Chu and Schramm, 1967)

The use of television in secondary schools has never been as widespread as its use in the primary grades. Even when secondary schools are physically equipped for using television programs, the television sets remain untouched most of the time. Sometimes monitors merely sit collecting dust in classrooms or closets--ripe picking for adolescent vandals.

A number of reasons have been proposed to account for this situation. Among them: secondary school teachers are specialists and resist television because it "threatens" their dominant role in the classroom; class schedules often do not allow enough time to use television properly; equipment is unavailable; and secondary level programming is of the "talking head" variety and thus boring to student and teacher alike. Its critics conclude that secondary school television is awkward to use and the available programs are hardly worth the effort.

A review of the previous research on secondary school television can help define the problems associated with classroom television and identify factors that facilitate or inhibit its use. By drawing on these findings, new efforts can then be planned to improve utilization by emulating the successes and avoiding the pitfalls.

Predominant in the research literature on secondary school television are two salient factors in the decision to use secondary school television: money and staff attitude (Mathematica, Inc., 1973). While financial considerations are most often cited for nonuse, even where the school system has invested heavily in instructional television facilities, the abandonment rate of television after its adoption has been higher than for most other innovations (Aslin & DeArman, 1975). One causal factor in this high abandonment rate may be the ongoing cost of equipment maintenance, but other factors, particularly "staff" resistance, should also be considered.

In the hierarchical system of public education in the United States, administrators (including school principals) are considered first-line gatekeepers whose support is critical in obtaining the funds for installation and maintainance of effective systems (Schneller, 1977). Moreover, building administrators help create a positive atmosphere that can facilitate the use of instructional television. But in the end, the person responsible for turning on the television set is the classroom teacher, and the teacher is also the person most likely to resist innovation (Breen & Ary, 1972). Because of the central role played by the classroom teacher, most of the important issues are discussed from the teacher's perspective.

In 1967 Chu and Schramm, in their overview of television research, examined teacher attitudes toward television. Based on their review, five factors emerge that make up teacher attitudes toward television:

1. perception of degree of threat
2. perception of mechanized instruction replacing direct contact with students
3. estimation of effectiveness of the medium
4. difficulty encountered in using television
5. attitude toward change in general (trust or distrust of educational innovation

(p. 124)

The teacher's attitude and performance, in turn, affects students' attitudes toward television. Where the teacher is supportive and enthusiastic, students tend to develop more favorable attitudes. Chu and Schramm suggest that involvement and in-service training are critical in helping a teacher become more favorable toward television use. Research literature published since the Chu and Schramm report shows little change in teacher attitudes toward and perception of secondary school television.

Teacher Threat

Much of the early literature on school television touted the direct teaching possibilities of the medium. The television teacher was often called the "master teacher" and the classroom teacher was expected to be satisfied with carrying out the "essential functions" of motivation, reinforcement and application before, during, and after the lesson (Lewis, 1948; Mitchell, 1955). Television agencies and school administrators interpreted teachers' resistance to television's early efforts as an indication of their fear of replacement and loss of classroom control (Griffith, 1966).

Recently additional problems have surfaced. Some researchers believe that the secondary teachers resist ITV because they are not consulted when the district selects curriculum supports (including television). A major study by Mathematica (1973) found that the decision to invest in ITV is usually made at the regional or district level, and since the individual teacher is bypassed in this process, the study concludes that it is only reasonable to expect poor classroom cooperation. In addition, they describe teacher resistance as a matter involving personal threat, tinged with insecurity about "complex" electronic equipment and even fear of an Orwellian society:

> The question of teacher resistance to ITV is a difficult one since teachers may not want to admit to media specialists and other educators that they are "against progress" by being against the implementation of ITV in the classroom. Teachers, particularly in the liberal arts, may merely be uncomfortable with any kind of complex electronic equipment, feeling that they do not have the mechanical ability to smoothly operate such equipment in the classroom. Or they may feel a certain disdain for the "middle-brow" and "low-brow" world of television as opposed to the "high-brow" world of books. For some teachers, television smacks of a futuristic world, like the one described in Orwell's 1984, where people become dehumanized by television--become puppets obedient to a totalitarian state. (p. 13)

From House's (1976) viewpoint, however, teacher resistance is really teacher apathy. Teachers may have fewer external contacts with other professionals and, because of this, most new ideas are likely to come from other teachers. Moreoever, there are few tangible incentives for a teacher to accept any innovation. House believes that the personal costs of trying something new are underestimated by the nonteacher:

> The teacher has acquired his skills over a long period of time. Although they may not be the best of skills, he knows how to operate with them. Costs of acquiring new skills, which are not guaranteed to succeed, are therefore very high. In addition, the teacher is expected to learn these on his own time. (p. 339)

Tobias (1963) found that teachers were biased against terms referring to instructional technology rather than toward the technology itself. This phenomenon was present particularly when terms seemed to indicate automation of the teacher's role; i.e., programmed instruction, TV teacher. In a follow-up study (1966), he found more support for his hypothesis that these terms accounted for more resistance than the innovation itself. One hundred fifteen secondary school teachers were asked to rank twelve terms describing instructional media. Three terms were used to denote ITV: audiovisual education, educational television, and TV tutor. In general, favorable attitudes fell sharply when the term "tutor" was affixed to television. "Audiovisual education" was scored the most positively followed by "educational television."

Characteristics of the Secondary School

A number of characteristics unique to secondary schools often make the use of television more difficult at this level. The traditional system of scheduling individual courses during a 40- to 60-minute class period causes two major problems: 1) this time is not sufficient to introduce, present and follow-up most programs (particularly those longer than 20 minutes), and 2) course specialization is usually based on a curriculum within which few series of television programs will fit easily.

Scheduling and Equipment

Scheduling and equipment problems are the most frequently reported reasons for limited use or absence of secondary school television. Even if the teacher is highly motivated, cases of equipment failure, inflexible broadcast schedules and the need to decide weeks in advance to preview and use a program may cause insurmountable problems. Almost all research studies agree on this score.

In Ontario, Sussman (1973) found that what little equipment available was poorly located and in poor operating condition. Gerlach and Kearns (1973) cite the inaccessibility of both television sets and programs. In his survey of over 100 "qualified persons" (teachers and administrators) McKune (1966) reports that 40% of the respondents indicated class schedules as the major deterrent to the use of television in secondary schools. In WGTE-TV's (Toledo, Ohio) survey, only 2% of high school teachers used television (Snow, 1975). The major reasons cited for this lack of use were inconvenient scheduling and too few television sets.

In a survey of television agencies, AIT found lack of equipment to be a critical barrier (Schneller, 1977). Equipment availability, even within the same district, is spotty; one school may be well equipped while another is almost bare. In Georgia, a research study reported that when monitors are not available in each classroom, use of television is considered a "hassle." Most of the literature is consistent on this point--without considerable upgrading of recording and playback equipment and its proper storage and maintenance, television faces a gloomy future on the secondary level (Schneller, 1977).

Curriculum Integration

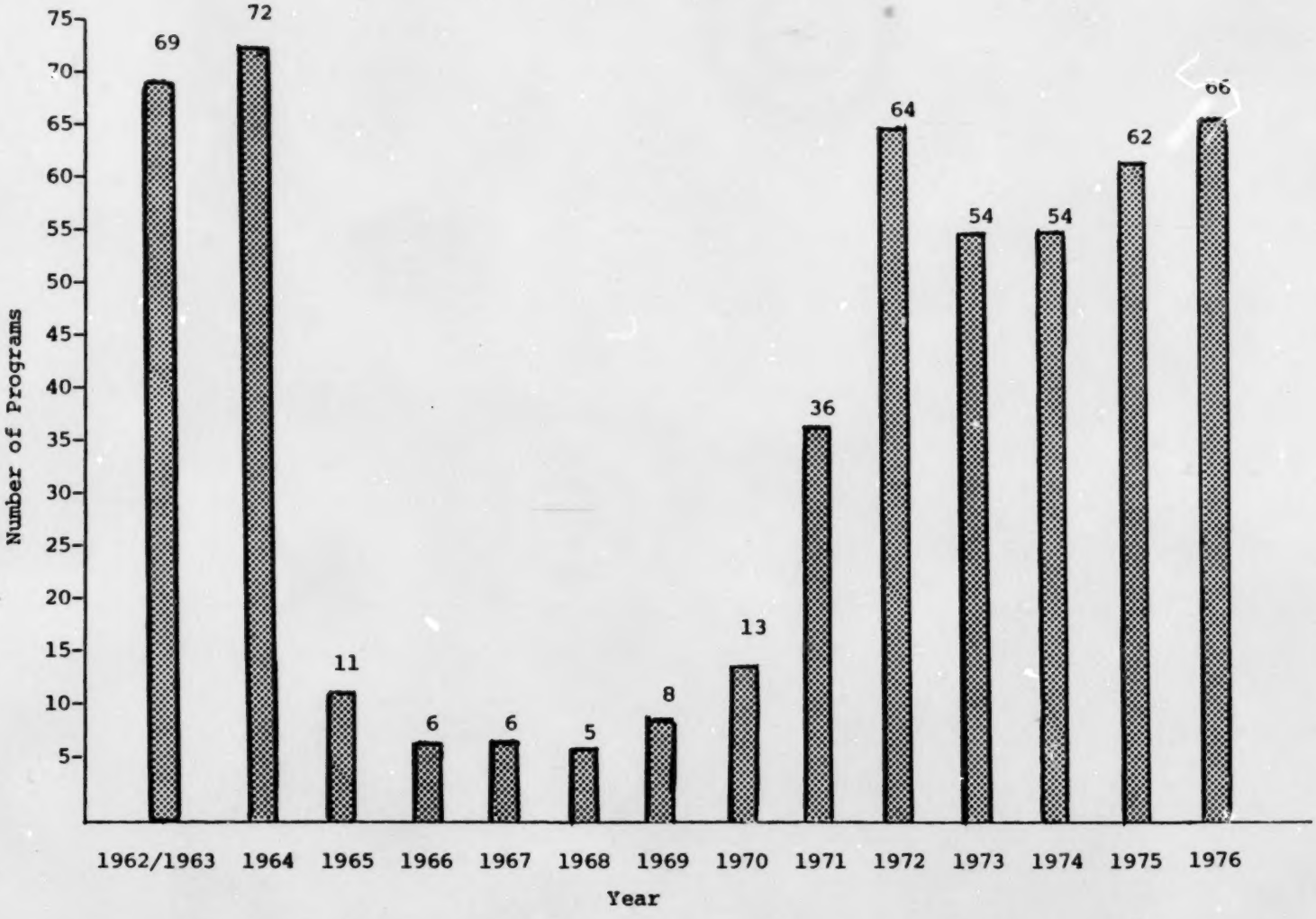
In her study of junior, senior and secondary school teachers in Ontario, Sussman (1973) found that teachers were twice as likely to use television in the "junior" (1-6) grades than in senior or secondary classes. She reports that programming for younger children is more likely to exploit the unique characteristics of television than is programming for older students. More commercial production techniques are used in elementary school programming, as compared to the "lectures" on video" designed for older children.

Her findings are supported in the United States by Mathematica (1973) and Gerlach and Kearns (1973). Both of these report that secondary school teachers believe the commercial sector hasn't produced enough high quality programs for older children. Because of this, teachers have not fully used the medium and the market has remained static. Gerlach and Kearns (1973) refer to this situation as the "chicken and egg" controversy--there is no demand because producers haven't developed high quality programs, because there is no market. Kirkorian (1971) indicated that teachers would be more likely to use ITV if they had greater access to more of the existing television series. He contends that teachers are unfamiliar with what is available because there is no single agency cataloging and/or distributing materials.

Figure 1 illustrates the national availability of school television series from 1962 to 1976. In 1962, the National Instructional Television Library (NITL, a forerunner of AIT) compiled A guide to films, kinescopes, and videotapes available for televised use. As one AIT staffer recalls, "anything people wanted to make available for national distribution" was in the catalog. In all, NITL published

FIGURE 1

Number of Programs Available
for Secondary Use, 1962-1976



three of these guides (1962, 1963, and 1964); the programs described in them had not been reviewed for content or quality. When NITL and Great Plains Instructional Television Library (GPITL) began this review process in 1965, a sharp reduction--from 72 in 1964 to 11 in 1965--in the programs available at the secondary level resulted. This downward trend continued through the 1960s, but, since 1970, there has been a noticeable increase in the number of secondary school television series distributed by AIT and GPNITL. Last year their catalogs showed sixty-six programs available for secondary school use.

One idea explored by Selection Research (1977) is whether teachers would use television more if they felt they could "fit" it into their curriculum. Bound to a more rigid curriculum then their "generalist" counterpart in the elementary grades, the secondary school teachers must select programs that fit a 40- to 60-minute period and also cover specific topics in a specific order. Most available school television series do not meet both standards. Programs often overlap content concerns outside of any one teacher's realm. Taking this criticism one step further, Sussman (1973) reports that another limiting factor is the teacher's inability (or unwillingness) to preview instructional fare. Since the subject content is more specific, secondary school teachers reported that preview is more important in the upper grades.

In a study conducted for the State of Georgia, teachers and administrators emphasized a desire to use "specials" as opposed to regular series (Tressel, et. al, 1975). These authors believe this preference reflects two salient teacher concerns: a periodic special is worth the effort to adapt the schedule, and specials do not "inflict"

the continued presence of a second teacher who may be more skilled and certainly more glamorous.

Finally in a recent study of television in secondary schools AIT (Schneller, 1977) found three programming issues worthy of attention.

1. The interdisciplinary approach often taken in ITV programming brings in materials unrelated to the subject being taught.

2. ITV should supplement, enrich and relate subject matter to the real world. It can do things that are beyond the resources and capabilities of the classroom. It should concentrate on these without getting into straight content presentation.

3. Unlimited off-air duplication rights for educational purposes are seen as a must in order to get around the scheduling problems.

(p. 4)

Past Experiences

Previous unsuccessful attempts at using secondary school television may sour the user. Culkin (1966) observes that television, like most educational innovations, has a record of being oversold and then not delivering. He offers some negative thoughts:

> Many schools are haunted by the spectre of unused hardware. Enthusiastic administrators have often purchased equipment without fully realizing how much time and effort it would take to keep the equipment in use. The system will be useless unless the school provides staff and budget for quality programming... (p. 165)

Hake (1968) reports on the abandonment of the use of television even before its use in Salem High School in New Hampshire.

> From the beginning (we) knew from the curriculum and instructional point of view, all of the advantages and disadvantages of CCTV; from the technical point of view we didn't know a television camera from a "Polaroid Swinger" so we decided to put that aspect of the problem into the background temporarily. That is where we made our first big mistake.
>
> (p. 191)

Salem High bought a vidicon camera (but not a monitor for it), three television sets, and wired half the classrooms before investigating CCTV use by other schools. When they did, they were out of money and found that the system they installed was not capable of delivering what they wanted. While the system would be designed differently if they were to do it again, Hake concluded that the benefit of television was not worth the effort.

McKune (1966) described his discussions with some readers on the subject of television:

> A few...reported unfortunate experiences with organizations and agencies outside the jurisdiction of the school system concerned. In one, television instruction was instituted by fiat, attempts to restructure schedules failed, reception which was poor at the beginning grew worse and three-fourths of the teachers opposed the venture. By the end of that year the project died, a happy turn of events from the teachers' point of view. (p. 100)

These remarks from ten years ago have not been forgotten; history may be unforgiving. One respondent in AIT's survey offered some perspective on general attitudes toward school television. In parts of California, the introduction of ITV disappointed many educators because of the "talking head" quality of programming. Such programming convinced many that ITV "magnified boredom" and they were reluctant to try it again (Schneller, 1977).

Recommendations in the Literature

To overcome some of the problems discussed in this literature review, many researchers believe that more attention to teacher training is required. Others call for more accurate data on secondary school utilization before making a determination.

Teacher Training

Kirkorian (1971) found that teachers feel insecure using "complex" equipment and that they would be more inclined to use instructional media if they were more comfortable with the hardware.

Gerlach and Kearns (1973) and others hold the colleges of education accountable for poor teacher training. They contend that when "media utilization" courses began to proliferate, professors began to feel the need to be "respectable" and moved the curriculum from the practical aspects of utilization (how to use the equipment, where to find software, etc.) to academic discussion of the latest "McLuhanisms... as though such abstractions had anything to do with producing students who are skilled in using media in classroom instruction." (p. 89)

In his survey of NEA and AFT members, Dawson (1971) found that both groups considered instructional media to be rather low on lists of teachers' priorities but that it would increase in importance in the coming years. His research identifies information on newly developed forms of mediated instruction as the greatest teacher need.

Goodlad (1971) believes that during the last decade, when ITV adoption in the schools was the highest, producers tried to develop "teacher-proof" materials. Subsequent abandonment was caused by both the producers' and the school administration's lack of preparation for the support systems teachers might need in giving up the old and familiar for the new and uncertain.

The conclusions of the Mathematica study (1973) hold the bleakest view of the consequences of insufficient teacher training. They suggest that while teacher training is the "ideal" means for overcoming teacher resistance, limited school budgets have prevented it from

taking place. As a result, they see no hope for increasing the use of media in the schools and suggest the abandonment of the practice all together. In lieu of in-school use, they support the use of instructional media at home and suggest that in the coming years, advances in video technology for the home will make this the most viable alternative.

Utilization

Miles (1964) cites the lack of systematic evaluation as a significant factor in the abandonment of innovation. He reports that administrators either adopt or abandon the newer media on inutitive rather than research-based data. Initial student boredom or lack of teacher enthusiasm are interpreted as "self evident" indicators of failure and, as a result, innovations are abandoned before their potential is fully realized. Sybouts (1968) suggests that the lack of evaluation is inexorably linked to inadequate determination of goals at the outset of a project. Finally, Goodlad (1971) found that few, if any research findings are available about how innovations get into schools. Hypothetical models and assumptions have been developed but, untested, are of little help to practitioners in trying to effect change.

Conclusions

This review has focused on the problems associated with the use of secondary school television. But the future may not be as bleak as the studies reported here seem to indicate. As Figure 1 illustrates, more and more software for secondary school use is becoming available.

In addition, recent technological advances and a relaxation of off-air taping regulations granted by some software distributors may mitigate the scheduling and equipment difficulties associated with its use. These developments make this an ideal time for the reassessment of television's role in secondary education.

The resurgence of interest in secondary programming, especially in the last three years, has not developed in a vacuum. The market for high quality television programs for teenagers and adults is evident not only from AIT's recent study of the field but also by the Journalism Education Association's TV Commission. In an effort to anthologize outstanding youth programs, the JEA has proposed to survey the nation's commercial and public television stations to identify programming by and/or for adolescents. In addition, film distributors are beginning to court the educational television market through promotions and including "cleared-for-television" rights with many of the rental offerings.

The Public Broadcasting Service, AIT, and a handful of other program sources are also facilitating high school use by permitting off-air recording and storage of programs, for up to a year in AIT's case. This alleviates one of the major problems faced by secondary educators--scheduling. With recording rights, educators can tape and replay programs as many times as they wish within a specific period.

Probably the most significant breakthrough is the expansion of the videocassette consumer market. The implications of this development for education are impressive. First, the decline in cost will make it easier for schools to purchase hardware. Second, as the consumer market expands, both teachers and students will become more

familiar with the hardware and, once the novelty effect subsides, will be able to develop methods of using the equipment that are suited to their way of teaching and learning. And finally, some researchers believe that the educational benefits of easy-to-use video hardware will also facilitate at-home learning for youngsters unable to attend school.

The consumer market for video products has opened the door once again to secondary school television. Disc technology, when it arrives, may speed the process along. Producers and distributors who provide secondary educators with more flexible use options, and the increased availability of high quality software are indicators that the future for secondary school television is more optimistic than it had been even during the hey-day of school television--1957-1967.

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